Claims

[c1] 1. A method comprising the steps of:

(a) aligning a grid with a first image;

(b) generating grid alignment data based on the alignment of the grid with the first image;

(c) storing the grid alignment data in memory;

(d) retrieving the grid alignment data responsive to an indication to analyze a second image; and

(e) analyzing the second image based on the retrieved grid alignment data.

[c2] 2. The method of claim 1, wherein:

the first image is generated by scanning a first probe array; and

the second image is generated by scanning the first probe array.

[c3] 3. The method of claim 2, wherein:

the first image is generated by scanning the first probe array with a first excitation beam; and

the second image is generated by scanning the first probe array with a second excitation beam.

[c4] 4. The method of claim 3, wherein:

the first excitation beam has a first wavelength; and

the second excitation beam has a second wavelength different from the first wavelength.

[c5] 5. The method of claim 2, wherein:

the first probe array is a spotted array.

[c6] 6. The method of claim 2, wherein:

the first probe array is a synthesized array.

[c7] 7. The method of claim 1, further comprising:

(f) receiving one or more user-selected grid aligning parameters.

[c8] 8. The method of claim 7, wherein:

the user-selected grid aligning parameters include any one or more of the group consisting of a fixed algorithm shape with easy threshold, a fixed algorithm shape with tight threshold, a variable algorithm shape with easy threshold, a variable algorithm shape with tight threshold, or an estimated feature size.

[c9] 9. The method of claim 7, wherein:
the user-selected grid aligning parameters include an estimated feature size based on a dimension of a depositing element.

[c10] 10. The method of claim 1, further comprising the step of:
(f) scanning a first probe array to generate the first and second images prior to performing step (a).

[c11] 11. The method of claim 10, wherein:
the first and second images are scanned sequentially.

[c12] 12. The method of claim 10, wherein:
the first and second images are scanned in parallel using two excitation beams.

[c13] 13. The method of claim 1, further comprising the steps of:
(f) retrieving the grid alignment data responsive to an indication to analyze one or more images in addition to the first and second images; and
(g) analyzing each of the one or more additional images based on the retrieved grid alignment data.

[c14] 14. The method of claim 13, further comprising the steps of:
(h) receiving a user selection of a number of images to scan; and
(i) scanning the user-selected number of images.

[c15] 15. The method of claim 14, further comprising the step of:
(j) receiving a user selection of one or more parameters for scanning.

[c16] 16. The method of claim 15, wherein:
the one or more parameters for scanning include a gain for one or more of

the user-selected number of images.

[c17] 17. The method of claim 15, wherein:
the one or more parameters for scanning include an indicator of an excitation source for one or more of the user-selected number of images.

[c18] 18. A computer program product comprising:
(a) a grid aligner that aligns a grid with a first image; and
(b) an image analysis manager comprising
(i) an image analyzer that generates grid alignment data based on the alignment of the grid with the first image,
(ii) an image analysis data storer that stores the grid alignment data in memory, and
(iii) a multiple scan alignment controller that retrieves the grid alignment data responsive to an indication to analyze a second image;
wherein the image analyzer analyzes the second image based on the retrieved grid alignment data.

[c19] 19. The computer program product of claim 18, wherein:
the first image is generated by scanning a first probe array; and
the second image is generated by scanning the first probe array.

[c20] 20. The computer program product of claim 19, wherein:
the first image is generated by scanning the first probe array with a first excitation beam; and
the second image is generated by scanning the first probe array with a second excitation beam.

[c21] 21. The computer program product of claim 20, wherein:
the first excitation beam has a first wavelength; and
the second excitation beam has a second wavelength different from the first wavelength.

[c22] 22. The computer program product of claim 19, wherein:
the first probe array is a spotted array.

[c23] 23. The computer program product of claim 19, wherein:
the first probe array is a synthesized array.

[c24] 24. The computer program product of claim 18, further comprising:
(c) a GUI manager that receives one or more user-selected grid aligning parameters.

[c25] 25. The computer program product of claim 24, wherein:
the user-selected grid aligning parameters include any one or more of the group consisting of a fixed algorithm shape with easy threshold, a fixed algorithm shape with tight threshold, a variable algorithm shape with easy threshold, a variable algorithm shape with tight threshold, or an estimated feature size.

[c26] 26. The computer program product of claim 25, wherein:
the user-selected grid aligning parameters include an estimated feature size based on a dimension of a depositing element.

[c27] 27. A scanning system, comprising:
a scanner that scans a first probe array to generate a first image and a second image; and
a computer program product, comprising
(a) a grid aligner that aligns a grid with the first image; and
(b) an image analysis manager including
(i) an image analyzer that generates grid alignment data based on the alignment of the grid with the first image,
(ii) an image analysis data storer that stores the grid alignment data in memory, and
(iii) a multiple scan alignment controller that retrieves the grid alignment data responsive to an indication to analyze the second image;
wherein the image analyzer analyzes the second image based on the retrieved grid alignment data.

[c28] 28. The system of claim 27 , wherein:

the first and second images are scanned sequentially.

[c29] 29. The system of claim 27 , wherein:

the first and second images are scanned in parallel using two excitation beams.

[c30] 30. The system of claim 27 , wherein:

the computer program product further includes a GUI manager that receives a user-selected number of images to scan, wherein the number is greater than one; and

the scanner scans the first probe array to generate the user-selected number of images, including the first and second images.

[c31] 31. The system of claim 30 , wherein:

the user-selected number of images to scan is greater than two;

the multiple scan alignment controller retrieves the grid alignment data responsive to an indication to analyze one or more images in addition to the first and second images; and

the image analyzer analyzes at least one of the one or more additional images based on the retrieved grid alignment data.

[c32] 32. A scanning system, comprising:

a scanner that scans a first probe array to generate a first image and a second image;

a computer; and

a computer program product that, when executed on the computer, performs a method comprising the steps of:

(a) aligning a grid with the first image;

(b) generating grid alignment data based on the alignment of the grid with the first image,

(c) storing the grid alignment data in memory;

(d) retrieving the grid alignment data responsive to an indication to analyze the second image; and

(e) analyzing the second image based on the retrieved grid alignment data.

[c33] 33. A method comprising the steps of:

(a) aligning a grid with a first image;

(b) generating grid alignment data based on the alignment of the grid with the first image;

(c) storing the grid alignment data in memory;

(d) retrieving the grid alignment data responsive to an indication to analyze a second image; and

(e) analyzing the second image based on the retrieved grid alignment data; wherein the first image is generated by scanning a first probe array and the second image is generated by scanning a second probe array different from the first probe array.